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NOTICE OF ALLOWANCE AND FEE(S) DUE

COOPER & DUNHAM, LLP 30 Rockefeller Plaza 20th Floor NEW YORK, NY 10112 EXAMINER
HEIDEMANN, JASON E

ART UNIT PAPER NUMBER
2624

DATE MAILED: 08/17/2011

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,359	09/18/2006	Hiroto Kokubun	1141/76910	1312

TITLE OF INVENTION: METHOD AND SYSTEM FOR COLLECTING IMAGE DATA FROM IMAGE DATA COLLECTION RANGE INCLUDING PERIODICALLY MOVING PART

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	11/17/2011

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN <u>THREE MONTHS</u> FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. <u>THIS STATUTORY PERIOD CANNOT BE EXTENDED.</u> SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE

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maintenance fee notifications. CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)				Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.			
COOPER & D 30 Rockefeller F 20th Floor NEW YORK, N		I S a	C hereby certify that tates Postal Service Idressed to the M.	e rtificat this Fee(with sub ail Stop	e of Mailing or Trans (s) Transmittal is being	g deposited with the United st class mail in an envelope above, or being facsimile	
							(Depositor's name)
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APPLICATION NO.	FILING DATE		FIRST NAMED INVENTO	OR .	ATTC	RNEY DOCKET NO.	CONFIRMATION NO.
10/593,359	09/18/2006	•	Hiroto Kokubun		•	1141/76910	1312
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APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DU	E PREV. PAID ISS	UE FEE	TOTAL FEE(S) DUE	DATE DUE
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EXAM	IINER	ART UNIT	CLASS-SUBCLASS]		
HEIDEMAN	N, JASON E	2624	382-128000				
☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required. 3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE LAGE NOTE.			registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.				
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4a. The following fee(s) are submitted: ☐ Issue Fee ☐ Publication Fee (No small entity discount permitted) ☐ Advance Order - # of Copies			4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above) ☐ A check is enclosed. ☐ Payment by credit card. Form PTO-2038 is attached. ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number (enclose an extra copy of this form).				
5. Change in Entity Sta	,	*	_				
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NOTE: The Issue Fee an interest as shown by the	d Publication Fee (if req records of the United Sta	uired) will not be accepte tes Patent and Trademark	d from anyone other that Office.	n the applicant; a re	gistered	attorney or agent; or th	ne assignee or other party in
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an application. Confiden	tiality is governed by 35 d application form to the ions for reducing this butteriginia 22313-1450. DO	U.S.C. 122 and 37 CFR	1.14. This collection is	estimated to take 1. lividual case. Any	2 minute	s to complete, including to on the amount of tire	g gathering, preparing, and me you require to complete artment of Commerce, P.O. for Patents, P.O. Box 1450,

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,359	10/593,359 09/18/2006 Hiroto Kokubun			1312
23432 75	90 08/17/2011	EXAMINER		
COOPER & DUI	· · · · · · · · · · · · · · · · · · ·	HEIDEMANN, JASON E		
30 Rockefeller Plaz 20th Floor	za		ART UNIT	PAPER NUMBER
NEW YORK, NY	10112	2624		

DATE MAILED: 08/17/2011

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 649 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 649 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

- 1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
- 2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
- 3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
- 4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
- 5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
- 6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
- 7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
- 8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
- 9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

	Application No.	Applicant(s)				
	10/593,359	KOKUBUN ET AL.				
Notice of Allowability	Examiner	Art Unit				
	JASON HEIDEMANN	2624				
	O/COTT FEIDEN/ATT	2024				
The MAILING DATE of this communication apperature All claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-85) NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT REPORTED OF THE OFFICE OF UPON POSITION BY THE OFFICE OF THE OFFICE OFFIC	(OR REMAINS) CLOSED in this a or other appropriate communication IGHTS. This application is subject	application. If not included on will be mailed in due course. THIS				
1. This communication is responsive to <u>06/02/2011</u> .						
2. X The allowed claim(s) is/are <u>1-8,10-13,16,17,20 and 22</u> .						
 3. Acknowledgment is made of a claim for foreign priority ur a) All b) Some*c) None of the: 1. Certified copies of the priority documents have 2. Certified copies of the priority documents have 3. Copies of the certified copies of the priority do International Bureau (PCT Rule 17.2(a)). 	e been received. e been received in Application No.					
* Certified copies not received:						
Applicant has THREE MONTHS FROM THE "MAILING DATE" noted below. Failure to timely comply will result in ABANDONN THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.		ly complying with the requirements				
4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.						
5. CORRECTED DRAWINGS (as "replacement sheets") must	5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.					
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached						
1) ☐hereto or 2) ☐ to Paper No./Mail Date						
(b) ☐ including changes required by the attached Examiner'Paper No./Mail Date	s Amendment / Comment or in the	Office action of				
Identifying indicia such as the application number (see 37 CFR 1 each sheet. Replacement sheet(s) should be labeled as such in t						
 DEPOSIT OF and/or INFORMATION about the depo attached Examiner's comment regarding REQUIREMENT 						
Attachment(s)						
1. Notice of References Cited (PTO-892)	5. Notice of Informal					
2. Notice of Draftperson's Patent Drawing Review (PTO-948)	6. ☐ Interview Summa Paper No./Mail D	oate				
3. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date	7. Examiner's Amen					
4. Examiner's Comment Regarding Requirement for Deposit of Biological Material		nent of Reasons for Allowance				
(CATH V DEDUNCAVOOD)	9. Other					
/SATH V PERUNGAVOOR/ Primary Examiner, Art Unit 2624						

DETAILED ACTION

General Information Matter

Applicant filed Amendment on 06/02/2011 for application 10/593359 amending claims 1, 16, and 22. Currently, Claims 1-8, 10-13, 16, 17, 20, and 22 are pending.

Response to Amendment

The amendment received 06/02/2011 has been entered and considered in full.

Response to Arguments

Specification

The Title was objected to in the previous Office action for not being descriptive.

Applicants have submitted a new title to overcome the previously outstanding objections.

Examiner approves the new title.

35 USC § 102/103

In the previous office action, the rejections made were:

• Claims 1-3, 11-13, 16, and 20-21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yavuz in view of Pan

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• Claims 4-5, 10 and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable

over in view of Pan and further in view of Siemens

Claim 22 was rejected under 35 U.S.C. 103(a) as being unpatentable over Pan in view

of Yokogawa

Applicants have since amended the independent claims to further define the invention.

Applicant's arguments, see pages 10-14, filed 06/02/2011, with respect to the claims have been

fully considered and are persuasive. The rejection of all pending claims has been withdrawn.

The Examiner believes that all the arguments of the Applicant(s) have been properly

addressed and explained.

Priority

This application claims benefit of foreign priority under 35 U.S.C. 119(a-d) of a Japanese

patent applications, JP 2004-080939, filed March 19, 2004 and JP 2004-110756, filed April 5,

2004.

Allowable Subject Matter

1. Claims 1-8, 10-13, 16, 17, 20, and 22 are allowed.

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2. The following is an examiner's statement of reasons for allowance: the reasons for allowance are apparent based on the Applicant's persuasive arguments on see pages 10-14, filed 06/02/2011.

The closest following prior arts were found:

- Yavuz et al., US 6,539,074, Reconstruction of multislice tomographic images
 from four-dimensional data
- Pan et al., WO 02/26135, Multi-sector CT imaging of cyclically-moving heart by helical scanning and gating projection data using representative cardiac cycle
 EKG signal
- Siemens Medical, "HeartView CT Application Guide by Siemens Medical,
 Software Version syngo CT 2005A", 2004
- Kaufman et al., US 7006862 B2, Graphical user interfaces and methods for retrospectively gating a set of images
- Kaufman et al., US 7142703 B2, Methods and software for self-gating a set of images
- Kaufman et al., US 7209779 B2, Methods and software for retrospectively gating a set of images
- Tsuyuk, US 7251308 B2, X-ray computed tomography apparatus

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 Burrell et al., US 7308299 B2, Method, apparatus and product for acquiring cardiac images

 Watanabe, US 7421057 B2, X-ray CT apparatus and method of controlling the same

With respect Claim 1, applicant claims:

An image data collection control method for collecting multiple pieces of image data from an image data collection range including a periodically moving part of an object to be examined, the method comprising:

a step of obtaining periodic motion data indicating a change of a periodic motion with time;

a step of obtaining a time range so that the time resolution is within the desired range on an image data collection condition based on the periodic motion data and a relationship among a time resolution of an image obtained, image data collection conditions and periodic motion;

a step of setting on a body axis of the object (i) a starting position of image data collection and (ii) an end position of image data collection such that the time range matches the image data collection range between the set start position and the set end position; and

a step of collecting the image data collection from the image data collection starting position to the end position.

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Applicant uniquely claimed a distinct features in the instant invention, which are not found in the prior art, either singularly or in combination. The feature "a step of obtaining a time range so that the time resolution is within the desired range on an image data collection condition based on the periodic motion data and a relationship among a time resolution of an image obtained, image data collection conditions and periodic motion; a step of setting on a body axis of the object (i) a starting position of image data collection and (ii) an end position of image data collection such that the time range matches the image data collection range between the set start position and the set end position." See applicant's persuasive arguments regarding the closest cited prior art, page 12-14.

With respect to Claim 16, it includes essentially the same limitations as Claim 1 respectively as addressed above. All of the limitations in combination are not found or suggested in the prior art

With respect Claim 22, applicant claims:

An image data collection system for collecting image data in an image data collection range including a periodically moving part of an object to be examined, the system comprising:

a device for displaying a graph indicating fluctuations in an estimated time resolution of an image obtained on a part of the object with time information with a projected image of the object, in advance of image data collection,

wherein the time information in the graph is associated with position of the image data collection on the projected image of the object.

Applicant uniquely claimed a distinct features in the instant invention, which are not found in the prior art, either singularly or in combination. The feature "a device for displaying a graph indicating fluctuations in an estimated time resolution of an image obtained on a part of the object with time information with a projected image of the object, in advance of image data collection, wherein the time information in the graph is associated with position of the image data collection on the projected image of the object." Specifically Applicant has uniquely claimed displaying time information (time resolution fluctuations) on a graph that is associated with the position of the image data collection on the projected image of an object. See applicant's persuasive arguments regarding the closest cited prior art, page 14.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Comment on 35 USC § 101

Independent claim 1 is a "process" claim and has been analyzed in light of Bilski et al v.

Kappos [11], and the relevant guidance [2], [3]. The independent claim is not directed to an

abstract idea. Furthermore, the independent claim tangibly implements the method at least

because a processor or equivalent hardware is necessary to perform the claimed "obtaining a

time range so that the time resolution is within the desired range", and "controlling an image

data collection starting position". Therefore, based upon consideration of all the relevant

factors^[3] with respect to the claim as a whole, claim 1 and its dependents are not directed to an

abstract idea.

Regarding Claim 16, the claim is in a system claim, and is statutory since it recites "periodic

motion data obtaining means image data for", "collection condition setting means for", "image

data collection position control means for", and "image data collecting means for", which

invoke 35 U.S.C 112, 6th Paragraph "means plus language" and hence is statutory.

1 See Bilski et al v. Kappos (SCt. 08-964),

² See Memorandum to the Examining Corps, Regarding the Supreme Court Decision in Bilski v. Kappos, issued June 28, 2010, available at http://www.uspto.gov/patents/law/exam/memoranda.jsp

³ See Interim Guidance for Determining Subject Matter Eligibility for Process Claims in View of Bilski v. Kappos, Federal Registrar, Vol. 75, No. 143, issued July 27, 201

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Regarding Claim 22, the claim is in a system claim, and is defined in terms of "a device for displaying a graph". Given the broadest reasonable interpretation of claim 22 in light of the specification and consistent with a conclusion reached by one of ordinary skill in the art, the claimed "device" is construed by the examiner as a hardware based device containing software, such as a computer or one or more computer components. Claim 22 is therefore drawn to a statutory machine.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Heidemann:

- phone (571) 270-5173,
- fax (571) 270-6173, or
- e-mail jason.heidemann@uspto.gov.

The examiner can normally be reached on Monday - Thursday/7:30 A.M. to 5:00 P.M.. For e-mail communications, please note MPEP 502.03, which states, in relevant part, "[w]ithout a written authorization by applicant in place, the USPTO will not respond via Internet e-mail to any Internet correspondence which contains information subject to the confidentiality requirement as set forth in 35 U.S.C. § 122." A sample authorization form which may be used by applicant can be found in MPEP 502.03 section II.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 571-272-7778. The fax phone numbers for the

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organization where this application or proceeding is assigned are 571-273-8300 for regular

communications and 571-273-8300 for After Final communications. TC 2600's customer service

number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you

would like assistance from a USPTO Customer Service Representative or access to the

automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Heidemann/ Examiner, Art Unit 2624 08/13/2011

/Sath V. Perungavoor/

Sath V. Perungavoor Primary Examiner, Art Unit 2624

Dated: August 16, 2011

Application/Control Number: 10/593,359

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